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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

DECLARATION FOR PATENT APPLICATION

Docket Number (Optional)

H0001160

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if Plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

ENVIRONMENTAL AND THERMAL BARRIER COATING FOR CERAMIC COMPONENTS

Is attached hereto unless the following box is checked.

was filed on _____ as United States Application Number or PCT International Application Number _____ and was amended on _____ (If applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as Amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

(Number) (Country) (Day/Month/Year Filed)

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below.
60/278,102 March 23, 2001

(Application Number) (Filing Date)

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International Application designating the United States, listed below and, insofar as the subject matter of each of the claims of this Application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Application Number) (Filing Date) (Status – patented, pending, abandoned)

(Application Number) (Filing Date) (Status – patented, pending, abandoned)

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: Robert Desmond, Reg. No. 38,430, Larry Palguta, Reg. No. 29,575, Verne E. Kreger Jr., Reg. No 35, 231, Jeanne C. Suchodolski, Reg. No. 34,936, Roger H. Criss, Reg. No. 25,570 and William J. Zak, Jr., 38,668.

Address all telephone calls to William J.Zak,Jr.,Esq. at telephone number 310-512-4885

Address all correspondence to Honeywell International, Inc.

Patent Services AB-2B

101 Columbia Road, P.O. Box 2245

Morristown, NJ 07962-2245

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor (given name, family name) Chien-Wei Li

Inventor's signature Chien-Wei Li Date 11-15-2001

Residence 11 Crescent Road, Livingston, NJ 07039 Citizenship USA

Post Office Address 11 Crescent Road, Livingston, NJ 07039

Full name of second joint inventor, if any (given name, family name) Derek Raybould

Second Inventor's signature Derek Raybould Date 11-15-2001

Residence 2 Horizon Drive, Denville, NJ 07834 Citizenship UK

Post Office Address 2 Horizon Drive, Denville, NJ 07834



Additional inventors are being named on separately numbered sheets attached hereto.

Lynn Griffin

LYNN GRIFFIN
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 8/30/2004

Sworn to and subscribed

before me this

12 day of Nov., 2001

SECOND PAGE OF DECLARATION FOR PATENT APPLICATION

Docket No. H0001160

Inventor's Signature:



Date:

11/15/2001

Name of Third Inventor:

Liang A. Xue

Residence: 9 Blanchard Ct. Randolph, NJ 07869

Citizenship: USA

P.O. Address: 9 Blanchard Ct. Randolph, NJ 07869

Inventor's Signature:

Date:

Name of Fourth Inventor:

Residence:

Citizenship:

P.O. Address:

Inventor's Signature:

Date:

Name of Fifth Inventor:

Residence:

Citizenship:

P.O. Address:

Inventor's Signature:

Date:

Name of Sixth Inventor:

Residence:

Citizenship:

P.O. Address:

Inventor's Signature:

Date:

Name of Seventh Inventor:

Residence:

Citizenship:

P.O. Address:

XP-002204763

1/18 - (C) FILE CA

STN CA Caesar accession number : 1464

AN - 136:394062 CA

TI - Reduction of leakage current of crystallized Ta₂O₅ through substitution with TiO₂

DT - Conference

IN - Salam, K. M. A.; Konishi, H.; Fukuda, H.; Nomura, S.

CS - Department of Electrical and Electronic Engineering, Muroran Institut Technology, Faculty of Engineering, Hokkaido, 050-8585, Japan

SO - Extended Abstracts of International Workshop on Gate Insulator, 1st, Tokyo, Japan, Nov. 1-2, 2001 (2001), 192-195 Publisher: Business Cent for Academic Societies Japan, Tokyo, Japan.
CODEN: 69CNQY; ISBN: 4-89114-021-6

PY - 2001

AB - The influence of the addn. of TiO₂ into Ta₂O₅ thin films at various compn. formed by metalorg. decompn. (MOD) was studied. The effects of post-deposition rapid thermal annealing (RTA) temp. on the structural and elec. properties of Ta₂O₅-xTiO₂ thin films were also analyzed. B doped Czochralski grown, p-type (100) Si wafers were used as substrate materials. The (1-x)Ta₂O₅-xTiO₂ thin films with a polycryst. structure were successfully prep'd. by metalorg.deco. crystallinity and insulating properties. A cryst.beta-Ta₂O₅ phase was obtained and the surface morphol. of the films was smooth. It increases the grain size with increase in annealing temp. high dielec. const., low leakage current, low interface trap d., low l good thermal stability, high charge storage d., and good breakdown strength results of 0.92Ta₂O₅-0.08TiO₂ thin films are encouraging for the possibility of dielec. layer in fully integrated electronic devices.